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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,958	07/25/2003	Izydor Gryko	MSFT-1757/302929.1	3201
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WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION) CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891			EXAMINER DAO, THUY CHAN	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/626,958

Applicant(s)

GRYKO ET AL.

Examiner

Thuy Dao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7-18,20-22,24-26,28-38 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-18,20-22,24-26,28-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on September 28, 2007 has been entered.

2. Claims 1, 3-5, 7-18, 20-22, 24-26, and 28-38 have been examined.

Response to Amendments

3. Per Applicants' request, claims 1, 13, 22, and 34 have been amended and claims 2 and 23 have been canceled.

Response to Arguments

4. In view of Applicants' amendments, the 35 USC 102(a) rejection over claims 1-5, 7-18, 20-26, and 28-38 in view of Series 60-C++ has been withdrawn.

With respect to the reference Bogle, applicants' arguments are not persuasive. After further consideration, the examiner notes that Bogle also teaches the claimed limitations.

a) "The first step of Bogle debugging process is to activate the debugger, as illustrated in Figure 5 and column 12, lines 43-46: "The active debugging environment operational steps 500 begin at step 508 ..." Thus, active debugging is invoked at the beginning of the flow diagram of Figure 5 of Bogle" (Remarks, page 9, fourth paragraph, emphasis added).

The examiner respectfully disagrees with Applicants' assertions. As recited above by the Applicants, "The active debugging environment operational steps 500 begin at step 508 ...", but not the step of invoking the debugger (emphasis added).

In FIG. 5, Bogle explicitly teaches step 512 "Generate Run Time Environment", step 521 "Establish Active Debugging Environment", ..., and later invoking the debugger at step 550 "Perform debugging operations", which is illustrated in more details in FIG. 7, step 720

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"Start Target Script Runtime Under Debug Control", step 755 "Continue Debugging?", if YES, then loop back to step 728, i.e., the steps of invoking and deactivating the debugger happens only in step 550 of FIG. 5, emphasis added).

Accordingly, Applicants' arguments are not persuasive. Bogle explicitly teaches invoking the debugger within step 550 of FIG. 5 (details illustrated in FIG. 7), but not at step 508 as asserted by Applicants.

b) The claimed limitations:

Per the plain language of the claims, Bogle discloses *a method for debugging an application operating within a runtime environment, said method comprising:*

creating a hosting process not based on said application to be debugged by a debugger (e.g., FIG. 4, col.10: 23-38; col.3: 30-51);

wherein said hosting process is created prior to invoking the debugger (e.g., FIG. 5, hosting process is created at step 508, FIG. 5 before invoking the debugger in step 550; FIG. 4, col.10: 23-38);

starting said runtime environment in the hosting process prior to invoking the debugger (e.g., FIG. 5, step 512 Generate Run Time Environment, col.12: 52-59; col.3: 52-63);

attaching a debugger to said hosting process prior to invoking the debugger (e.g., FIG. 5, step 521 Establish Active Debugging Environment, col.12: 60 – col.13:10);

preloading, prior to invoking the debugger, selected assemblies into an application domain prior to receiving said request to debug (e.g., FIG. 6, step 612 creating/loading Script Engine Instance; FIG. 3, creating/loading Scripting Language Engine 301 with associated name space; FIG. 5, step 538);

receiving a request to debug the application prior to invoking the debugger (e.g., FIG. 5, step 530, Run Virtual Application Under Debug Environment Control, col.13: 11-23); and

in response to receiving said request, loading the application into the hosting process (e.g., FIG. 5, step 550, Perform Debugging Operations, col.13: 24-30; FIG. 7, step 720, Start Target Script Runtime Under Debug Control); and

invoking the debugger (e.g., FIG. 5, step 550 and FIG. 7, step 708 "Perform Debugging Operations"; FIG. 7, step 720, "Start Target Script Runtime Under Debug Control"; step 755 "Continue Debugging?", if YES → then loop back to step 728, emphasis added).

Accordingly, Applicants' arguments are not persuasive and the examiner respectfully maintains the 35 USC §102(b) rejection over claims 1, 3-5, 7-18, 20-22, 24-26, and 28-38.

Claim Rejections – 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 13-18, 20-22, 24-26, and 28-33 are rejected because the claimed invention is directed to non-statutory subject matter: "A *system for debugging an application ...*" (claim 13, line 1) and "A *software development system ...*" (claim 34, line 1). They amount to Functional Descriptive Material: "Data Structures" representing descriptive material per se or "Computer Programs" representing computer listings per se.

Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium

encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions. See MPEP 2106.

Under the principles of compact prosecution, claims 13-18, 20-22, 24-26, and 28-33 have been examined as the Examiner anticipates the claims will be amended to obviate these 35 USC § 101 issues. For example, - -A system, encoded in a computer readable storage medium, for debugging an application ...- - (claim 13) and - -A software development system, encoded in a computer readable storage medium, ...- - (claim 34) as similarly recited in independent claim 22.

Claim Rejections – 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 3-5, 7-18, 20-22, 24-26, and 28-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Bogle (art of record, US Patent No. 6,353,923).

Claim 1:

Bogle discloses a computer readable storage medium and a *method for debugging an application operating within a runtime environment, said method comprising:*

creating a hosting process not based on said application to be debugged by a debugger (e.g., FIG. 4, col.10: 23-38; col.3: 30-51);

wherein said hosting process is created prior to invoking the debugger (e.g., FIG. 5, hosting process is created at step 508, FIG. 5 before invoking the debugger in step 550; FIG. 4, col.10: 23-38);

starting said runtime environment in the hosting process prior to invoking the debugger (e.g., FIG. 5, step 512 Generate Run Time Environment, col.12: 52-59; col.3: 52-63);

attaching a debugger to said hosting process prior to invoking the debugger (e.g., FIG. 5, step 521 Establish Active Debugging Environment, col.12: 60 – col.13:10);

preloading, prior to invoking the debugger, selected assemblies into an application domain prior to receiving said request to debug (e.g., FIG. 6, step 612 creating/loading Script Engine Instance; FIG. 3, creating/loading Scripting Language Engine 301 with associated name space; FIG. 5, step 538);

receiving a request to debug the application prior to invoking the debugger (e.g., FIG. 5, step 530, Run Virtual Application Under Debug Environment Control, col.13: 11-23); and

in response to receiving said request, loading the application into the hosting process (e.g., FIG. 5, step 550, Perform Debugging Operations, col.13: 24-30; FIG. 7, step 720, Start Target Script Runtime Under Debug Control); and

invoking the debugger (e.g., FIG. 5, step 550 and FIG. 7, step 708 "Perform Debugging Operations"; FIG. 7, step 720, "Start Target Script Runtime Under Debug

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Control"; step 755 "Continue Debugging?", if YES → then loop back to step 728, emphasis added).

Claim 3:

The rejection of claim 1 is incorporated. Bogle also discloses *said runtime environment comprises a hosted runtime environment* (e.g., FIG. 3, col.8: 51 – col.9: 25).

Claim 4:

The rejection of claim 1 is incorporated. Bogle also discloses *said runtime environment comprises a script interpreter* (e.g., FIG. 3, Scripting Language Engine 301, col.8: 51 – col.9: 25).

Claim 5:

The rejection of claim 1 is incorporated. Bogle also discloses *said runtime environment comprises an intermediate language interpreter* (e.g., col.2: 12-48).

Claim 7:

The rejection of claim 1 is incorporated. Bogle also discloses *creating an application domain within said hosting process for debugging said application* (e.g., FIG. 4, step 530; FIG. 3, name space associated with Scripting Language Engine 301).

Claim 8:

The rejection of claim 1 is incorporated. Bogle also discloses *configuring said debugger to a hosting process mode for debugging said application via said hosting process* (e.g., FIG. 2, col.7: 61 – col.8: 38).

Claim 9:

The rejection of claim 1 is incorporated. Bogle also discloses *said runtime environment is hosted by said hosting process* (e.g., col.8: 4-50).

Claim 10:

The rejection of claim 1 is incorporated. Bogle also discloses *said application is developed in a design-time environment* (e.g., FIG. 4, IDE 410, col.10: 39-64).

Claim 11:

The rejection of intervening claim 10 is incorporated. Bogle also discloses *said design-time environment is a rapid application design environment* (e.g., FIG. 4, IDE 410, col.10: 39-64).

Claim 12:

The rejection of claim 1 is incorporated. Bogle also discloses *performance of said acts of creating, starting and attaching prior to said act of receiving is not perceived by a user* (e.g., FIG. 5, col.12: 43 – col.13: 30).

Claim 13:

Bogle discloses *a system, encoded in a computer readable storage medium, for debugging an application operating within a runtime environment, said system comprising:*

a hosting process for: preparing a hosting environment in which said application is debuggable by a debugger (e.g., FIG. 4, col.10: 23-38; col.3: 30-51);

wherein the hosting environment is prepared prior to invoking the debugger (e.g., FIG. 5, steps 508 and 550; FIG. 4, col.10: 23-38); *and*

receiving, prior to invoking the debugger, a request to debug said application, wherein said hosting process is independent of said application (e.g., FIG. 5, step 512, col.12: 52-59; col.3: 52-63);

the debugger for debugging said application via said hosting process (e.g., FIG. 5, step 521, col.12: 60 – col.13: 10); *and*

a design-time environment for hosting the debugger, wherein said hosting process is created, said runtime environment is started within said hosting process (e.g., FIG. 4, IDE 410, col.10: 39-64), and

said debugger is attached to said hosting process before said request to debug said application is received by said design-time environment (e.g., FIG. 7 and FIG. 5, step 521; col.12: 60 – col.13: 10; col.13: 24-30).

Claim 14:

The rejection of claim 13 is incorporated. Bogle also discloses *an application domain is created within said hosting process for debugging said application (e.g., FIG. 3, name space associated with Scripting Language Engine 301; FIG. 4, step 530).*

Claim 15:

The rejection of intervening claim 14 is incorporated. Bogle also discloses *selected assemblies are preloaded into said application domain prior to receiving said request to debug (e.g., FIG. 6, step 612; FIG. 5, step 538).*

Claims 16-18 and 20-21:

The rejection of claim 13 is incorporated. Claims 16-18 and 20-21 recite the same limitations as those of claims 3-5 and 10-12, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 16-18 and 20-21.

Claims 22, 24-26, and 28-33:

Claims 22, 24-26, and 28-33 are computer readable storage medium versions, which recite the same limitations as those of claims 1-5 and 7-12, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 22, 24-26, and 28-33.

Claim 34:

Bogle discloses a software development system, encoded in a computer readable storage medium, comprising:

a development tool that provides a user environment and interface to develop an application (e.g., FIG. 4, IDE 410, col.10: 39-64),

said user environment and interface including a user-operable control to begin debugging (e.g., col.12: 43 – col.13: 30; FIG. 7, step 755); and

a debugging preparation module that: creates a hosting process not based on said application to be debugged by a debugger (e.g., FIG. 4, col.10: 23-38; col.3: 30-51),

wherein said hosting process is created prior to invoking the debugger (e.g., FIG. 5, hosting process is created at step 508 before invoking the debugger in step 550);

starts, in the hosting process, prior to invoking the debugger, a runtime environment under which said application is runnable (e.g., FIG. 5, step 512, col.12: 52-59; col.3: 52-63); and

attaches a debugger to said hosting process prior to invoking the debugger (e.g., FIG. 5, step 521, col.12: 60 – col.13: 10);

said user-operable control causing said application to be loaded into the hosting process prior to invoking the debugger (e.g., FIG. 5, step 550, col.13: 24-30; FIG. 7, step 720).

Claims 35-38:

The rejection of claim 34 is incorporated. Claims 35-38 are software development system versions, which recite the same limitations as those of claims 20 and 16-18, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the reference teaches all of the limitations of the above claims, it also teaches all of the limitations of claims 35-38.

Conclusion

9. Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone is (571) 272 8570. The examiner can normally be reached on every Tuesday, Thursday, and Friday from 6:00AM to 6:00PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T. Dao



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SUPERVISORY PATENT EXAMINER